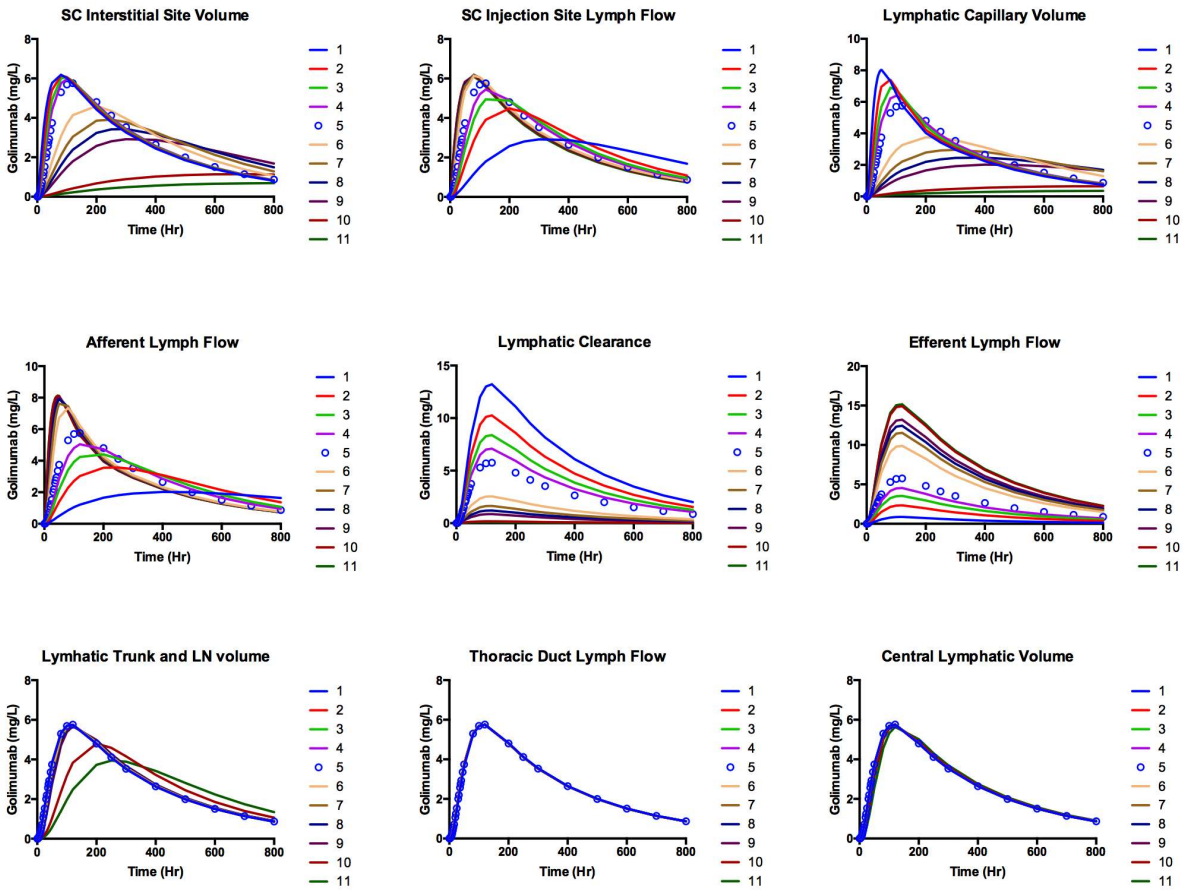


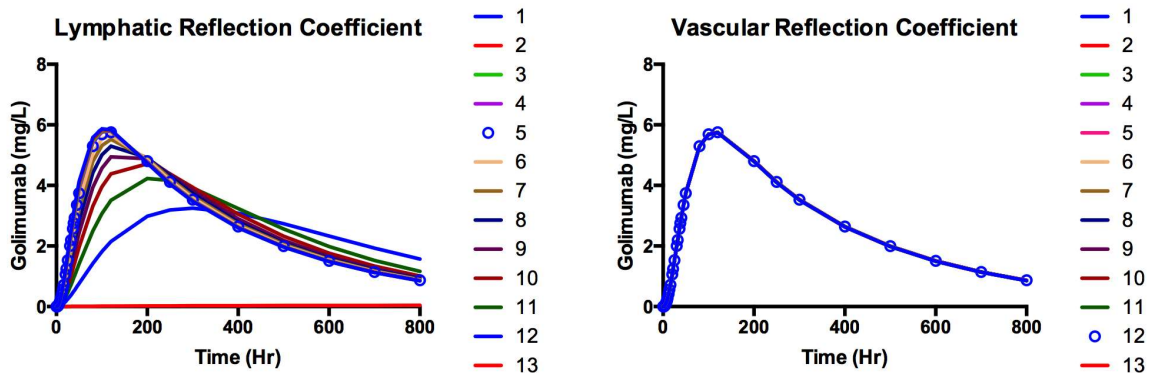
Supplementary Data

Understanding the monoclonal antibody disposition after subcutaneous administration using a minimal physiologically based pharmacokinetic model



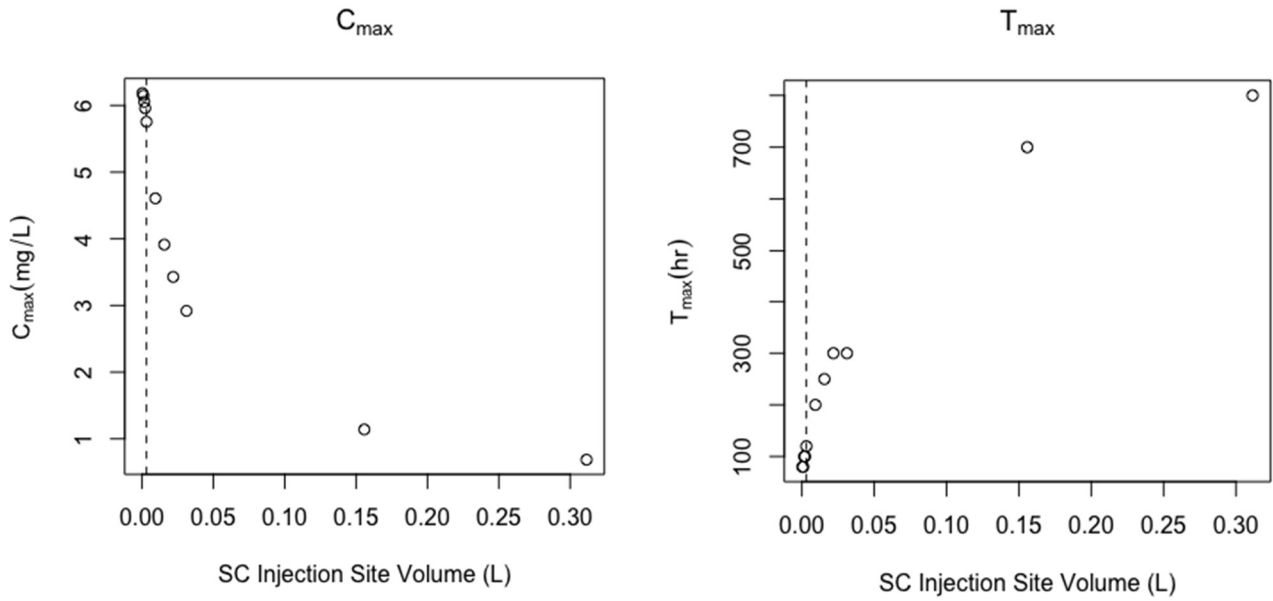
Supplementary Figure 1: Effect of change in various model parameters on PK of mAbs

(PK profiles 1-11 in each diagram represent 0.1-, 0.3-, 0.5-, 0.7-, 1-, 3-, 5-, 7-, 10-, 50-, and 100-fold of the original parameter value as mentioned in Table 1. The PK profile '5' (circles) represents the original parameter value. In the case of lymphatic clearance, estimated lymphatic clearance of golimumab was used as an original value (Table 4))

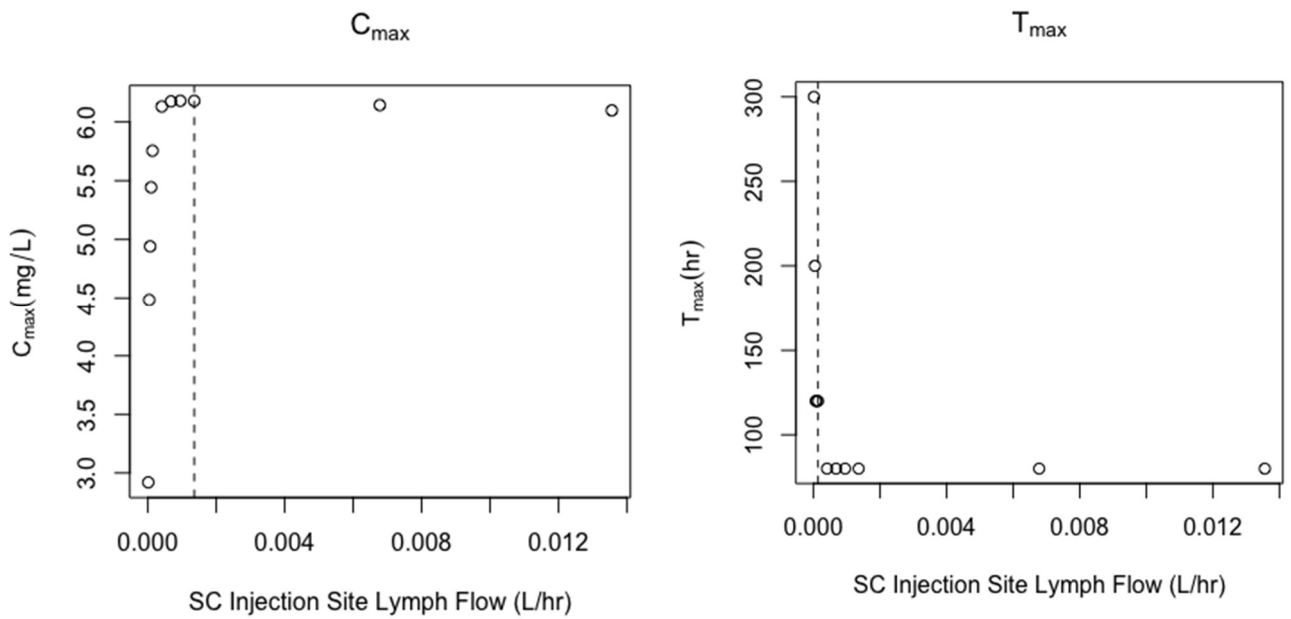


Supplementary Figure 2: Effect of change in lymphatic reflection coefficient and vascular reflection coefficient on PK of mAbs

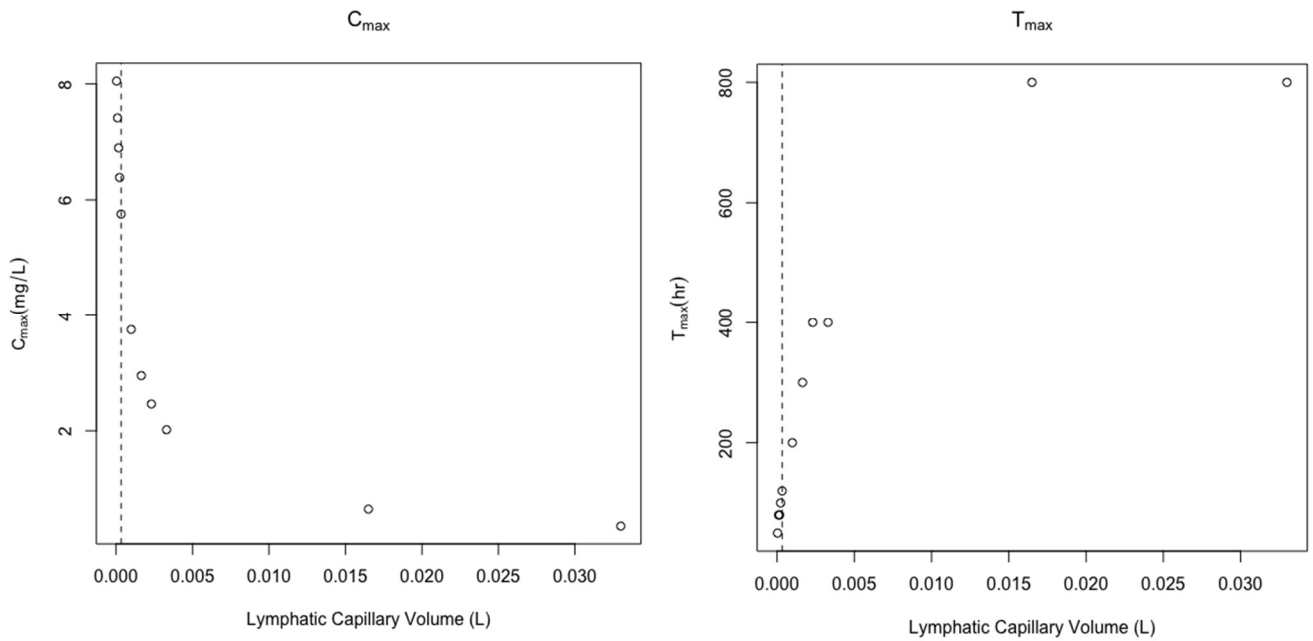
(The lymphatic reflection coefficient was altered by 0.1-, 0.3-, 0.5-, 0.7-, 1-, 1.5-, 2-, 2.5-, 3-, 3.5-, 4-, 4.5-, 5- folds of the original parameter value as mentioned in Table 2. The vascular reflection coefficient was altered by 0.01-, 0.1-, 0.105-, 0.21-, 0.31-, 0.42-, 0.52-, 0.63-, 0.73-, 0.84-, 0.94-, 1-, 1.05-folds of the original parameter value as mentioned in Table 2. The PK profiles from 1 to 13 indicate increasing value of the parameters.)



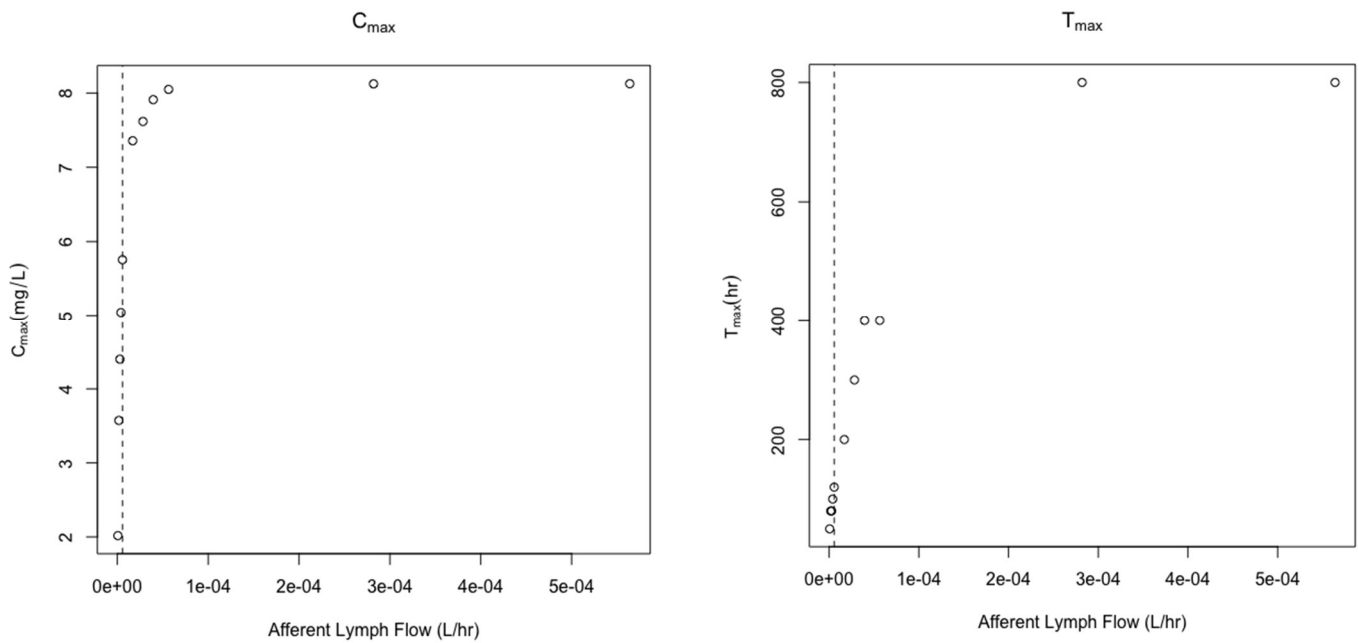
Supplementary Figure 3: C_{max} and T_{max} values with alteration of SC injection site volume 0.1-, 0.3-, 0.5-, 0.7-, 1-, 3-, 5-, 7-, 10-, 50-, and 100-fold of the original parameter value as mentioned in Table 1. (Dashed line indicates the original value of the SC injection site volume used in the model)



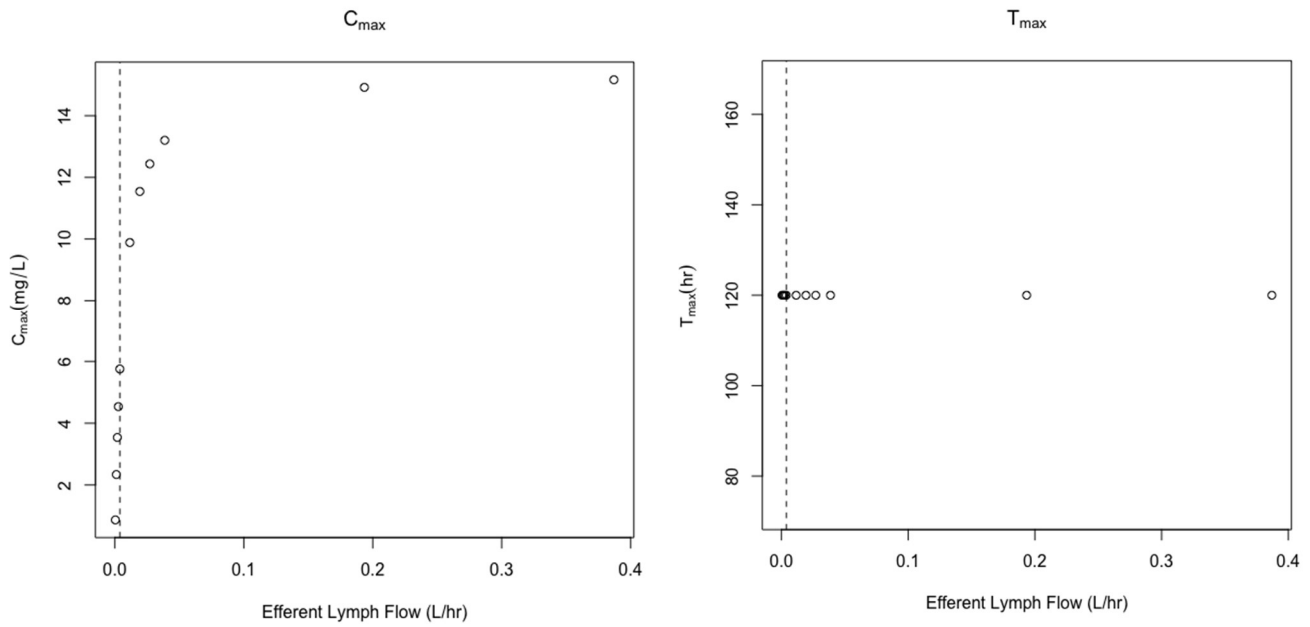
Supplementary Figure 4: C_{max} and T_{max} values with alteration of SC injection site lymph flow 0.1-, 0.3-, 0.5-, 0.7-, 1-, 3-, 5-, 7-, 10-, 50-, and 100-fold of the original parameter value as mentioned in Table 1. (Dashed line indicates the original value of the SC injection site lymph flow used in the model)



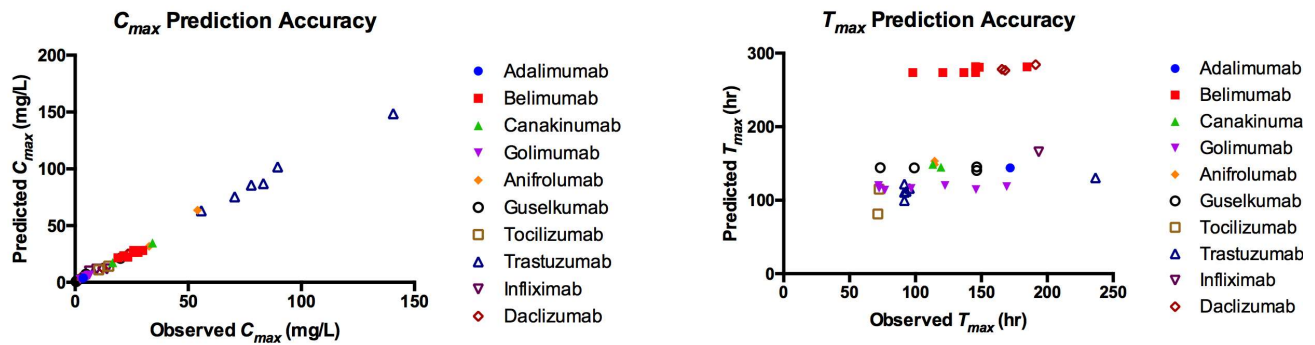
Supplementary Figure 5: C_{max} and T_{max} values with alteration of lymphatic capillary volume 0.1-, 0.3-, 0.5-, 0.7-, 1-, 3-, 5-, 7-, 10-, 50-, and 100-fold of the original parameter value as mentioned in Table 1. (Dashed line indicates the original value of the lymphatic capillary volume used in the model)



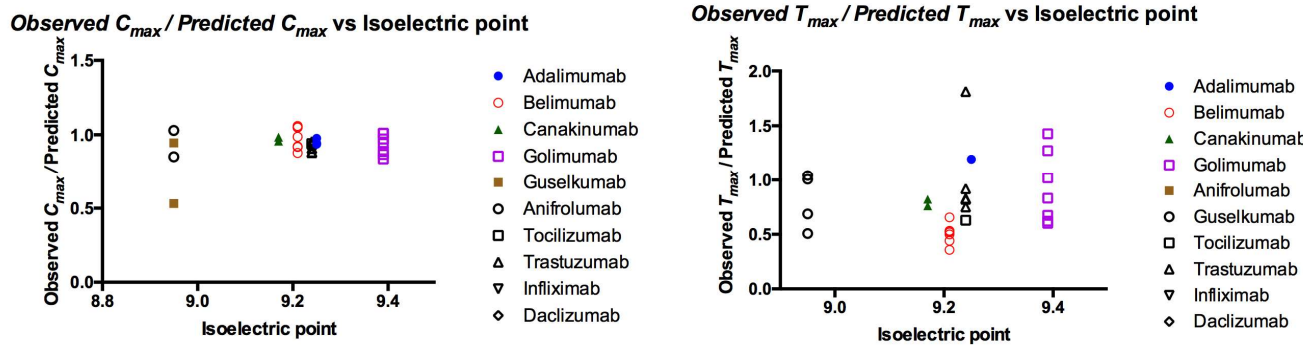
Supplementary Figure 6: C_{max} and T_{max} values with alteration of afferent lymph flow 0.1-, 0.3-, 0.5-, 0.7-, 1-, 3-, 5-, 7-, 10-, 50-, and 100-fold of the original parameter value as mentioned in Table 1. (Dashed line indicates the original value of the afferent lymph flow used in the model)



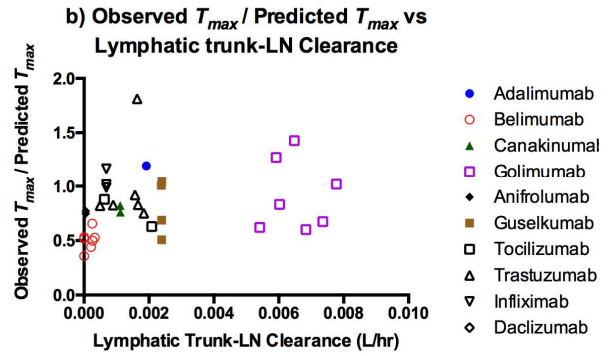
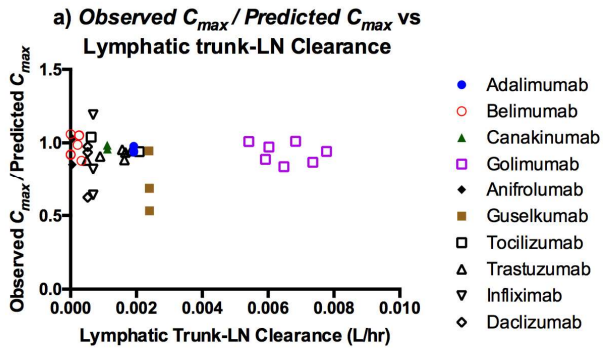
Supplementary Figure 7: C_{max} and T_{max} values with alteration of efferent lymph flow 0.1-, 0.3-, 0.5-, 0.7-, 1-, 3-, 5-, 7-, 10-, 50-, and 100-fold of the original parameter value as mentioned in Table 1. (Dashed line indicates the original value of the efferent lymph flow used in the model)



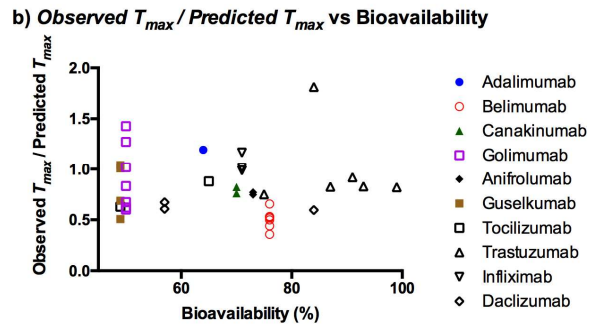
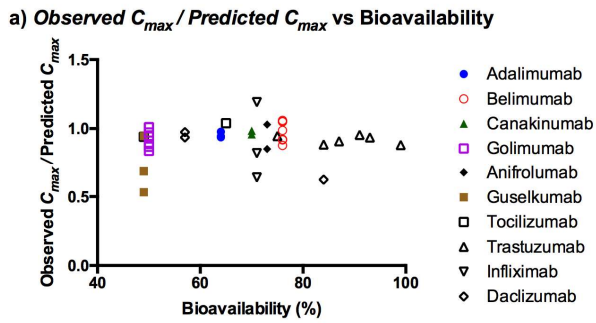
Supplementary Figure 8: Accuracy of C_{max} and T_{max} prediction by the minimal PBPK model



Supplementary Figure 9: Accuracy of the predicted C_{max} and T_{max} in comparison with the isoelectric point of mAbs



Supplementary Figure 10: Accuracy of the predicted C_{max} and T_{max} in comparison with the estimated lymphatic trunk-LN clearance of mAbs



Supplementary Figure 11: Accuracy of the predicted C_{max} and T_{max} in comparison with the bioavailability of mAbs